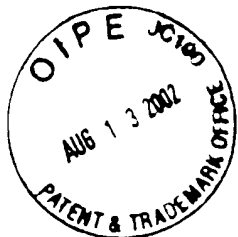


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PATENT

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicants: El-Shoubary, *et al.*

Docket No.: 13093

Application Serial No.: 09 723,098

Examiner: Tae H. Yoon

Filed: November 27, 2000

Group Art Unit: 1714

For: "*Organo-acid Phosphate Treated Pigments*"

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August 6, 2002

Commissioner for Patents  
Box AF  
Washington, DC 20231

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**RESPONSE TO FINAL OFFICE ACTION PURSUANT TO 37 CFR § 1.112**

Sir:

Applicants hereby submit this Response to Final Office Action in response to the Office Action that was mailed on June 21, 2002. This response is being submitted within the allotted three-month timeframe. Consequently, no fee is due. Accompanying this submission is a marked-up copy of the set of claims that have been amended herein.

**Certificate of Mailing Under 37 C.F.R. 1.8**

I hereby declare that on the date provided below this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner for Patents, Box AF, Washington D.C. 20231.

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August 6, 2002

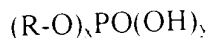
Kim Padilla

### AMENDMENTS

Please cancel claims 1, 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32, 34 and 38, without prejudice.

Please amend claims 3, 5, 7 and 35 to read as follows:

3. (Twice Amended) A micronized pigment comprising a pigmentary base that has been treated with an organo-acid phosphate compound having the formula:



wherein  $x = 1$  or  $2$ ;  
 $y = 3 - x$ ; and  
R is an organic group having from 2 to 22 carbon atoms,

wherein said pigmentary base comprises an inorganic oxide.

5. (Amended) A pigment according to claim 3, wherein said inorganic oxide is selected from the group consisting of titanium dioxide, kaolin, talc, mica and calcium carbonate.

7. (Amended) A pigment according to claim 5, wherein the inorganic oxide is titanium dioxide.

35. (Twice Amended) A method for preparing a pigment, comprising combining a pigmentary base and an organo-acid phosphate compound, wherein the organo-acid phosphate compound has the formula:



wherein  $x = 1$  or  $2$ ;  
 $y = 3 - x$ ; and  
R is an organic group having from 2 to 22 carbon atoms, and

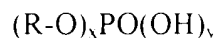
the pigmentary base comprises an inorganic oxide;

and micronizing said pigmentary base that has been combined with said organo-acid phosphate compound.

Please add new claims 39 - 54, which read as follows:

39. (New) A polymer matrix comprising:

- a. a pigment, said pigment comprising a pigmentary base that has been treated with an organo-acid phosphate compound having the formula:



wherein  $x = 1$  or  $2$ ,  
 $y = 3 - x$ , and  
R is an organic group having from 2 to 22 carbon atoms,

wherein said pigmentary base comprises an inorganic oxide; and

- b. a polymer suitable for plastics applications.

40. (New) The polymer matrix of claim **39**, wherein said inorganic oxide is selected from the group consisting of titanium dioxide, kaolin, talc, mica and calcium carbonate.

41. (New) The polymer matrix of claim **39**, wherein within the pigment, the organo-acid phosphate compound is present in an amount from about 0.01 to about 5 percent by weight of the pigmentary base, based on the weight of the pigmentary base prior to treating the pigmentary base with the organo-acid phosphate compound.

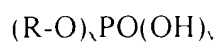
42. (New) The polymer matrix of claim **41**, wherein the amount of pigment is from about 50 percent to about 85 percent by weight of the polymer matrix based on the weight of the polymer matrix.

43. (New) The polymer matrix of claim **39**, wherein said polymer is polyethylene.

44. (New) The polymer matrix of claim **43**, wherein the pigmentary base comprises titanium dioxide.

45. (New) A method of preparing a polymer matrix, said method comprising:

- a. combining a pigmentary base and an organo-acid phosphate compound, wherein the organo-acid phosphate compound has the formula:



wherein  $x = 1$  or  $2$ ,  
 $y = 3 - x$ , and  
R is an organic group having from 2 to 22 carbon atoms,

and the pigmentary base is comprised of an inorganic oxide, to form a pigment;  
and

- b. combining said pigment with a polymer, wherein said polymer is suitable for plastics applications.

46. (New) The method of claim **45**, wherein said polymer is polyethylene.

47. (New) The method of claim **46**, wherein said pigmentary base is selected from the group consisting of titanium dioxide, kaolin, talc, mica and calcium carbonate.

48. (New) The method of claim **47**, wherein said pigmentary base comprises titanium dioxide.

49. (New) The method of claim **48**, wherein within the pigment, the organo-acid phosphate compound is present in an amount from about 0.01 to about 5 percent by weight of the

pigmentary base, based on the weight of the pigmentary base prior to treating the pigmentary base with the organo-acid phosphate compound.

50. (New) The method of claim 49, wherein the amount of pigment is from about 50 percent to about 85 percent by weight of the polymer matrix based on the weight of the polymer matrix.

51. (New) The polymer matrix of claim 39, wherein R is selected from the group consisting of hexyl-, octyl- and ethylhexyl-.

52. (New) The method of claim 49, wherein R is selected from the group consisting of hexyl-, octyl- and ethylhexyl-.

53. (New) A polymer matrix comprising:

- a. a pigment, said pigment comprising a pigmentary base that has been treated with an organo-acid phosphate compound having the formula:



wherein  $x = 1$  or  $2$ ,  
 $y = 3 - x$ , and  
R is an organic group having from 2 to 22 carbon atoms,

wherein said pigmentary base comprises titanium dioxide and wherein within the pigment, the organo-acid phosphate compound is present in an amount from about 0.01 to about 5 percent by weight of the pigmentary base, based on the weight of the pigmentary base prior to treating the pigmentary base with the organo-acid phosphate compound; and

- b. a polymer suitable for plastics applications.

54. (New) The polymer matrix of claim 53, wherein said polymer comprises polyethylene.